

REMARKS

The specification has been amended to obviate the informality at Page 1 objected to in the Office Action and to correct several typographical errors at Pages 2 and 4.

Claims 1 to 8 are in this case.

Claims 1 to 8 stand rejected under 35 U.S.C. 112 as being indefinite in the use of the phrase "on condition that the heating element is active. The claims as amended are no longer subject to this ground of rejection.

Claims 1-5, 7 and 8 stand rejected under 35 U.S.C. 102 (b) as being anticipated by Wenger, U.S. Patent 4,574,185.

Reconsideration of the claims as amended and withdrawal of the rejection is respectfully requested.

As discussed in the specification at Pages 1 and 2, in certain prior art fryers, the lowering command signal is generated when the selected cooking temperature is reached by the cooking bath and causes a basket lift motor to immerse a basket carrying food to be fried into the fat in the frying pan. However, a problem of this and other thermostatically controlled deep fat fryers is that the temperature of the fat sinks for a substantial period of time after a batch of food has been lowered therein. This period of time varies substantially as does the required cooking time for a given quantity of a given food. The thermostatic temperature control will respond to the temperature drop and activate the heating element. However, there is a lag between the time when the food is lowered in the fat causing an immediate temperature drop and the time when the thermostat calls for heat. Subsequently, it also takes some time before the temperature gradient associated to the maximum heat flow from the element to the fat is established.

The time lag between the temperature drop and the establishment of the maximum heat flow is normally 45 seconds or more.

The temperature drop has an adverse effect on the fried food quality. The longer the duration of the temperature drop, the more fat is absorbed by the food and the more water is lost from the food.

Another problem of deep fat fryers is that degeneration of the cooking medium is accelerated and energy consumption is increased due to overshoot in the temperature of the cooking medium, which occurs in use.

Also as discussed in the specification, other prior art fryers attempt to overcome the thermostat time reaction lag by initiating burner operation before or as the food is lowered into the cooking medium by either combining a bypass reset timer with a well-known adjustable frying cycle timer or manual start switch, or by tying in the bypass reset and cycle timers with an automatic lowering basket lift. However, the activation of the heater results in a temperature overshoot if the food to be fried is lowered into the cooking medium too late or if no food has been loaded into the basket. Conversely, if the food is lowered into the cooking medium at the same time as heater operation is initiated or very briefly thereafter, heat flow to the cooking medium may still be building up after the temperature of the cooking medium has dropped or the temperature of the cooking medium, which varies in accordance with the thermostatically controlled activation and deactivation of the heater, may be relatively low at the time of lowering of the food.

Finally, the specification describes an "instant-on" feature of the prior fryers that causes the heating element to be turned on immediately, regardless of the cooking medium temperature. This feature is activated once a product key is

depressed to initiate the cook mode. After a period of 15 seconds, a controller evaluates whether the temperature has gone up or fallen. If the temperature has gone up, the heating element is turned off. If the temperature has fallen, the heating element remains on. Also this solution entails that the activation of the heater can easily result in a temperature overshoot if the food to be fried is lowered into the cooking medium too late (depending on the temperature and the heating condition when the product key is depressed) or if no food is lowered into the cooking medium at all. The food can also be lowered into the cooking medium too early, i.e. before the heat flow to the fat is fully established and/or while the temperature is near the low end of the temperature range maintained by the thermostatic heater control.

The present invention provides a deep fat fryer which overcomes problems encountered in such fryers of the prior art associated with the reaction lag between the temperature drop associated with the lowering of food in the cooking medium and the establishment of the maximum heat flow from the heater to the cooking medium while avoiding or at least reducing the risk of temperature overshoot due to food not being lowered into the cooking medium in good time. (See the specification at Page 2, lines 22-25, et seq). As disclosed therein, this is achieved by incorporating in such a deep fryer a control system, which, while the heating element is active, is adapted for generating food lowering command signals in response to a temperature signal from the temperature sensor circuit representing a predetermined sensed temperature below an upper limit value. The generation of a food lowering command signal commanding both the loading of the food and the lowering of the food to the cooking medium in response to a temperature signal representing a first and second sensed

temperature below the upper limit value of the cooking medium temperature at which the heater is deactivated and while the heating element is active supports optimal timing of the lowering of the food into the cooking medium, so that the temperature drop is minimized while the risk of temperature overshoot is avoided or at least reduced.

Wenger, U.S. Patent 4,574,185, does not anticipate the claims of the invention. This is clear especially from the graphs and discussion relative to Figure 4. Patentee utilizes a continuously activated heater with multiple immersions and removals of the basket until the food is cooked. It is clear that Wenger is deficient as an anticipation of the present invention because in addition to other omissions of relevant disclosure, it clearly fails to disclose a deep fat fryer as claimed wherein the control system, while the heating element is active, is adapted for generating a first food lowering command signal for loading food in response to a temperature signal from the temperature sensor circuit representing a first predetermined sensed temperature below said upper limit value and for generating a second food lowering command signal for immersion of food in the cooking liquid in response to a temperature signal from the temperature sensor circuit representing a second predetermined sensed temperature below said upper limit value but greater than said first predetermined sensed temperature. The rejection is untenable and should be withdrawn.

Claims 1 to 8 stand rejected under the judicially created doctrine of double patenting over the claims of U.S. Patent 6,427,580. Applicants will file a Terminal Disclaimer to obviate this ground of rejection but ask that filing be held in abeyance until allowable subject matter is indicated.

In view of the above, it is respectfully submitted that the present application is in condition for allowance, and a Notice of Allowance is earnestly solicited.

Respectfully submitted,

By Ernestine C. Bartlett

Ernestine C. Bartlett Reg.No.22,861

Attorney for Applicant(s)